LISTING OF THE CLAIMS

CLAIMS

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is as follows:

1. (currently amended) A method comprising a requester discovering at least one service in a local domain, including the steps of:

obtaining an address of a proxy serving as a Service Discovery Proxy for said local domain;

establishing a connection to said Service Discovery Proxy; and

employing said Service Discovery Proxy in discovering dynamic availability of said at least one service in said local domain, wherein the step of employing includes:

said Service Discovery Proxy receiving a request from said requester for service discovery;

said Service Discovery Proxy invoking a service discovery protocol in said local domain;

customizing responses from services in said local domain; and

said Service Discovery Proxy sending customized responses to said requester.

2. (original) A method as recited in claim 1, further comprising employing one service from said at least one service.

3. (original) A method as recited in claim 1, wherein the step of obtaining includes:

contacting a central registry having addresses for a plurality of Service Discovery Proxies; and

selecting the address of a particular Service Discovery Proxy serving the local domain.

4. (original) A method as recited in claim 1, wherein the step of establishing includes employing said address in accordance with a transmission protocol.

5. (original) A method as recited in claim 4, wherein the transmission protocol is TCP/IP.

6. (original) A method as recited in claim 1, wherein the step of employing includes querying said Service Discovery Proxy for a list of services currently active in said local domain.

7. (original) A method as recited in claim 1, wherein said requester provides a list of services for which status is queried to said Service Discovery Proxy .

8. (original) A method as recited in claim 7, further comprising dynamically updating the list of services currently active in said local domain without registering any of said services with a central registry.

9. (canceled)

10. (original) A method as recited in claim 1 ~~claim 9~~, wherein the step of customizing includes at least one function taken from a group of functions including: formatting; filtering; aggregating; encapsulating; segmenting; selecting, and a requester defined function.

11. (original) A method as recited in claim 1 ~~claim 9~~, wherein the service discovery protocol includes Service Location Protocol.

12. (original) A method as recited in claim 1, wherein the step of employing includes receiving information enabling said requester to utilize said at least one service.

13. (currently amended) A method comprising forming a Service Discovery Proxy including the steps of:

assigning an available proxy to represent a local domain;

establishing a connection between said available proxy and a network; and

registering said available proxy as the Service Discovery Proxy representing the local domain, wherein the step of registering is performed employing a central registry.

14. (canceled)

15. (currently amended) A Service Discovery Proxy comprising:

a network communication module having an assigned communication address,

a service detector module to detect dynamically available services in a local domain represented by said proxy;

a processing module to process at least one incoming query from a requester regarding availability of at least one service; and

a responding module to form outgoing responses to said at least one incoming query allowing discovery of any of said dynamically available services by said requester, wherein said network communication module obtains an assigned network communication address from a network address assigning entity; and

registers said assigned network communication address with a central registry as a Service Discovery Proxy.

16. (original) A proxy as recited in claim 15, wherein said communication address exists in a central registry to allow said proxy to be accessed from a plurality of requesters.

17. (original) A proxy as recited in claim 15, wherein said network communication module further:

establishes a listening port for incoming queries; and

communicates with a plurality of requesters with a transmission protocol.

18. (canceled)

19. (original) A proxy as recited in claim 15, wherein said service detector module supports at least one communications functionality from a group of functionalities including:

at least one physical communication media;

at least one link protocol;

at least one network protocol;

at least one transmission protocol;

at least one service discovery protocol;

receiving service queries from said processing module;

determining an appropriate communication protocol to be used;

performing service discovery in accordance with a selected service discovery protocol; and

any combination of these.

20. (original) A proxy as recited in claim 15, wherein said service detector module determines an appropriate communication protocol to use.

21. (original) A proxy as recited in claim 15, wherein said processing module performs a function taken from a group of functions including:

querying the availability of at least one service;

querying all available services;

querying the employment of said service;

interpreting said query and invoking service detector module; and

any combination of these.

22. (original) A proxy as recited in claim 15, wherein said responding module transmits said query response to the requester.

23. (original) A proxy as recited in claim 15, wherein said responding module aggregates a plurality of query responses before transmitting a particular response to the requester.

24. (original) An article of manufacture comprising a computer usable medium having computer readable program code means embodied therein for causing requester discovery of a service, the

computer readable program code means in said article of manufacture comprising computer readable program code means for causing a computer to effect the steps of claim 1.

26. (canceled)

25. (original) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for requester service discovery, said method steps comprising the steps of claim 1.

27. (original) A computer program product comprising a computer usable medium having computer readable program code means embodied therein for causing functions of a Service Discovery Proxy, the computer readable program code means in said computer program product comprising computer readable program code means for causing a computer to effect the functions of claim 15.